

## CLAIMS

We claim:

1. A method of merging traffic, the method comprising:  
receiving a plurality of messages from at least two sources wherein each  
5 message contains a frame position field value;  
positioning each of at least two of said plurality of messages at a common  
location within a 6 millisecond superframe wherein the frame position field value  
contained within each of the at least two messages are identical; and  
positioning at unique locations in the 6 millisecond superframe, messages of  
10 said plurality that have different frame position field values.
2. The method of Claim 1, further comprising:  
merging the payloads of the at least two messages containing identical frame  
position field values to create a merged payload; and  
15 routing the merged payload to a port.
3. The method of Claim 1, wherein the at least two messages are received  
at a switch prior to merging.
- 20 4. The method of Claim 1, wherein the messages are merged at a switch.
5. The method of Claim 1, wherein each of the at least two messages is  
directed to an identical destination prior to merging.
- 25 6. The method of Claim 1, wherein the plurality of messages are further  
comprised of fixed length packets.
7. The method of Claim 6, wherein the fixed length packets are TDM  
packets.

8. The method of Claim 4, wherein the switch performs a simple OR function when merging the messages.

9. The method of Claim 1, wherein the port is an output port on a switch.

10. The method of Claim 4, wherein the port is an output port on the switch.

11. The method of Claim 1, further comprising:  
10 multicasting a message targeted to a plurality of destinations to each destination wherein the message is multicast by a switch.

12. The method of Claim 1, further comprising aligning each of the at least two messages.

13. The method of Claim 1, wherein there are 48 125 microsecond frames per each 6 millisecond superframe and each start of a 6 millisecond superframe is coincident with a frame sync pulse.

14. The method of Claim 1, wherein the 6 millisecond superframe is at the source of each of the at least two messages.

15. The method of Claim 2, wherein the messages that are not merged are positioned at locations within the 6 millisecond superframe independent of the frame position field values within each message that is not merged.

16. A method of merging traffic, comprising:  
generating traffic at a plurality of source line units;  
transporting said traffic to a switch;

routing the traffic to appropriate target line units based on information contained within the traffic; and

merging traffic routed to the same target line unit at the switch;

wherein the traffic being merged originates in different source line units.

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17. The method of Claim 16 wherein the DS0 traffic is transported in the form of a plurality of TDM packets wherein each TDM packet further comprises a payload.

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18. The method of Claim 17 wherein the packets are generated at said plurality of source line units.

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19. The method of Claim 17 wherein the switch performs a simple OR function in merging the packet payloads.

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20. A system for merging traffic, comprising

a means for receiving a plurality of messages from at least two sources wherein each message contains a frame position field value;

a means for positioning each of at least two of said plurality of messages at a common location within a 6 millisecond superframe wherein the frame position field value contained within each of the at least two messages are identical; and

a means for positioning messages of said plurality that have different frame position field values, wherein said messages that have different frame position field values are positioned at unique locations in the 6 millisecond superframe.

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21. A system for merging traffic, comprising:

a means for generating traffic at a plurality of source line units;

a means for transporting said traffic to a switch;

a means for routing the traffic to appropriate target line units based on information contained within the traffic; and

a means for merging the traffic routed to the same target line unit, wherein the traffic being merged originates in different source line units.

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